

MAINCRAFTS TECHNOLOGY

INTERNSHIP PROGRAM

CYBER SECURITY TASK -2

PERSONAL CYBERSECURITY LAB

-Submitted by

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1. Introduction

This report documents the successful setup of a **personal cybersecurity practice lab** in a safe and isolated environment.

The lab is designed for learning basic cybersecurity concepts such as virtualization, network isolation, and web application testing.

2. Objective

The objective of this task is to:

- Build a safe and isolated cybersecurity lab
 - Set up an attacker machine (Kali Linux)
 - Deploy a vulnerable web application (OWASP Juice Shop)
 - Validate connectivity and basic security tools
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3. System Requirements

Component	Specification
Operating System	Windows
RAM	8 GB
Disk Space	40 GB free
Virtualization	Enabled
Software	VirtualBox, Kali Linux

4. Lab Architecture

The lab consists of:

- **Host System** (Personal Computer)
- **Kali Linux VM** (Attacker)
- **OWASP Juice Shop** (Vulnerable Web Application)
- **Isolated Network Setup**

Network Configuration:

- NAT: Internet access
 - Host-Only / Localhost: Internal lab communication
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5. Tools Used

- VirtualBox
 - Kali Linux
 - Docker
 - OWASP Juice Shop
 - Nmap
 - Burp Suite
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6. Implementation Steps

Step 1: Kali Linux Setup

- Kali Linux virtual machine was started successfully.
 - Internet connectivity was verified.
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Step 2: Target Application Setup

- Docker was installed and enabled.
- OWASP Juice Shop container was pulled and executed.
- Application was accessed using:

`http://localhost:3000`

Step 3: Network Verification

- IP configuration was verified using:

`ip a`

Step 4: Connectivity & Scanning

- Basic scan was performed using:

`nmap localhost`

Step 5: Tool Validation

- Burp Suite was launched successfully.
- Web traffic was intercepted to validate proxy configuration.

7. Results

- Kali Linux attacker machine was successfully configured.
- Vulnerable web application was deployed and accessed.

- Network connectivity was verified.
 - Basic security tools functioned as expected.
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8. Conclusion

This task successfully established a **safe cybersecurity lab environment**.

The lab provides a strong foundation for future tasks such as vulnerability assessment, penetration testing, and incident response practice.

9. Evidence Attached

- Kali Linux running screenshot
 - OWASP Juice Shop webpage
 - IP configuration output
 - Nmap scan output
 - Burp Suite interface
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10. References

- OWASP Juice Shop Documentation

- Kali Linux Official Documentation
- Docker Documentation